

REMARKS

In the Office Action mailed September 30, 2004, claim 9 was rejected under 35 U.S.C. 112, second paragraph. Next, claims 1-26 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-35 of U.S. Patent No. 6,235,866. Claims 1-26 remain active in the application. No new matter has been added.

First, the Examiner states that claim 9 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Next, the Examiner states that the term "capable of" in claim 1 is a relative term which renders the claim indefinite. This rejection is respectfully traversed. The Examiner gives no explanation as to which portion of claim 9 is indefinite. Additionally, the term "capable of" is not used in any portion of claim 1. Clarification is requested. Hence, it is respectfully submitted that claims 1 and 9 are neither vague nor indefinite.

Next, claims 1-26 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-35 of U.S. Patent No. 6,235,866. This rejection is respectfully traversed.

The present disclosure is concerned with the preparation of bis(halophthalimides) and polyether polymers. The bis(halophthalimide) is prepared, in part, by combining at least one halophthalic anhydride; a 1,3-diamine having at least one substituent ortho to one of its amine functionalities; an organic liquid having a polarity no higher than that of

o-dichlorobenzene, dichlorotoluene, 1,2,4-trichlorobenzene, diphenyl sulfone, anisole and veratrole; and obtaining the bis(halophthalimide). See Claim 1.

U.S. Patent No. 6,235,866 (herein referred to as Khouri et al.) generally discusses the preparation of polyether polymers and intermediates such as bis(halophthalimides). The bis(halophthalimide) is prepared by mixing at least one diamino compound, at least one halophthalic anhydride, an organic liquid having a polarity no higher than that of o-dichlorobenzene, dichlorotoluene, 1,2,4-trichlorobenzene, diphenyl sulfone and anisole, and an imidization catalyst. See Claim 1.

Khouri et al. do not teach, suggest, or disclose the recited invention as claimed in independent claims 1, 11, 18, and 23. Specifically, there is no teaching or suggestion of a bis(halophthalimide) prepared using, in part, a 1,3-diamine having at least one substituent ortho to one of its amine functionalities. Khouri et al. discuss a bis(halophthalimide) prepared using, in part, diamino compounds. In the Specification, Khouri et al. recite a list of diamino compounds. However, Khouri et al. do not recognize the unexpected benefit of a 1,3-diamine having at least one substituent ortho to one of its amine functionalities.

It is apparent from the Examples of the present disclosure that the bis(halophthalimide) prepared using a 1,3-diamine having at least one substituent ortho to one of its amine functionalities gives an unexpected result. For instance, the CIPAMI monomers prepared with 1,3-diamines having at least one substituted ortho to one of its amine functionalities (e.g. 2,4-toluene diamine, 2,6-toluene diamine, and diethyl toluene diamine) had enhanced solutility compared with mPD and pPD. See Example 1. Khouri

et al. have not predicted that a CIPAMI monomer prepared with 1,3-diamines having at least one substituent ortho to one of its amine functionalities has enhanced solubility compared with other diamino compounds.

Additionally, "it has been surprisingly found that levels of cyclic oligomers produced during the polymerization reaction of bisphenol A disodium salt and a CIPAMI monomer may be reduced by utilizing diamines other than mPD in the formation of CIPAMI." See, page 4, paragraph [0017]. Clearly, Example 2 demonstrates that CIPAMI monomers produced with 1,3-diamines having at least one substituent ortho to one of its amine functionalities give polyetherimides having lower levels of cyclics with comparable or better glass transition temperatures than CIPAMI monomers produced with other diamino compounds. Khouri et al. have not predicted that a CIPAMI monomer prepared with 1,3-diamines having at least one substituent ortho to one of its amine functionalities have lower levels of cyclics with comparable or better glass transition temperatures than prior art methods.

Since Khouri et al. have made no mention of the unexpected results of enhanced solubility and reduced formation of cyclics by preparing a CIPAMI monomer with 1,3-diamines having at least one substituent ortho to one of its amine functionalities, the present disclosure as recited in claim 1 is not obvious in view of Khouri et al. "The fact that an invention provides results which would not have been expected by those skilled in the art is strong evidence in rebuttal of an assertion that the invention would have been obvious." *In re Klosak*, 173 U.S.P.Q. 14, 16 (C.C.P.A. 1972). "[T]hat which would have been surprising to a person of ordinary skill in a particular art would not have been

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obvious.” *In re Soni*, 34 U.S.P.Q.2d at 1687. Hence, the unexpected benefit of the present disclosure is not obvious in view of Khouri et al.

For the reasons set forth above, it is respectfully requested that the rejection of claims 1, 11, 18, and 23 under the judicially created doctrine of obviousness-type double patenting should now be withdrawn.


Claims 2-10, 12-17, 19-22, and 24-26 depend either directly or indirectly from independent claims 1, 11, 18, and 23 and are therefore believed to also be allowable for the reasons set forth above. In addition, the dependent claims set forth further limitations which patentably distinguish the invention over all the prior art of record.

The art cited but not applied is noted, but the patents cited fail individually or in common to detract from the patentability of the Applicant’s invention.

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In view of the foregoing amendment and for the reasons set out above, it is respectfully submitted that claims 1-26 which stand rejected in this application, are patentably distinct from the art cited in the Office Action and are now in condition for allowance. Favorable action on these claims is requested.

Respectfully submitted,



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